October 9 to October 15, 2011 (Week 41)

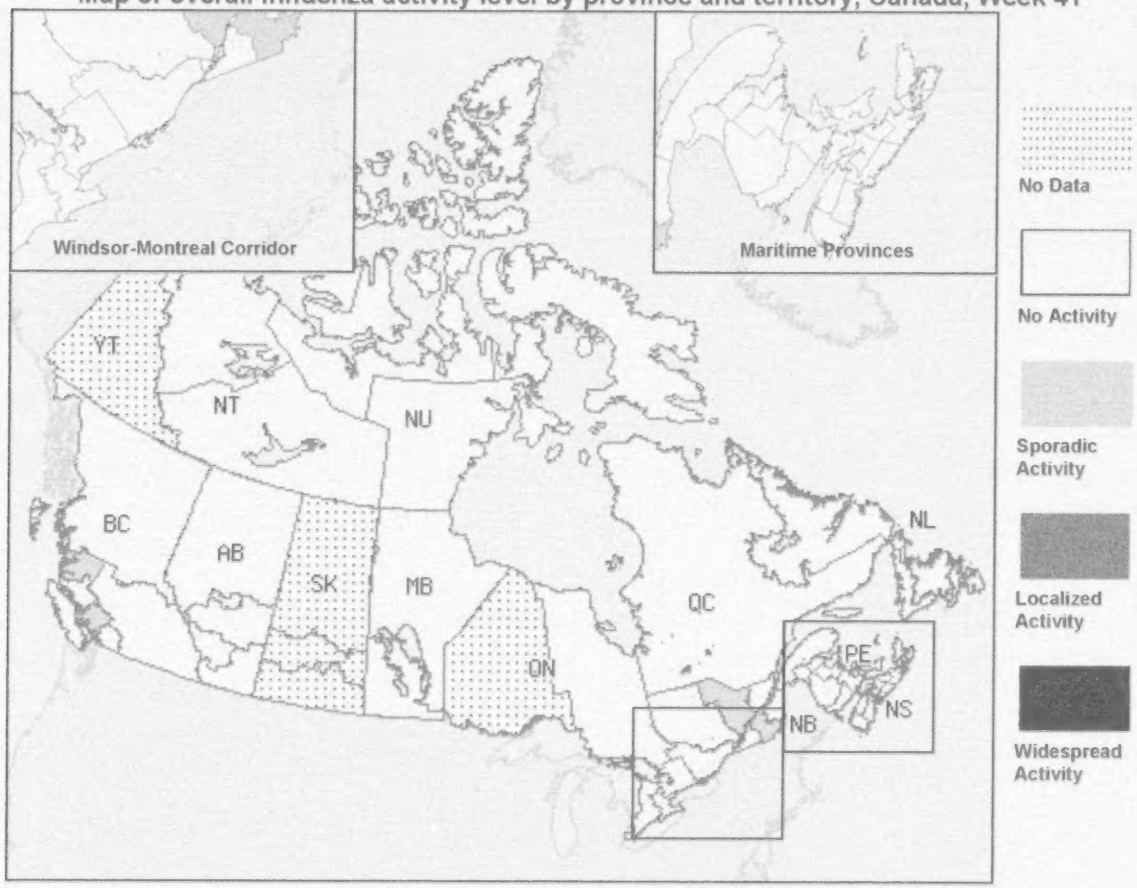
Overall Influenza Summary

- **Influenza activity continues at low inter-seasonal levels**
- **In week 41, 3 laboratory detections of influenza were reported**
- **Only two regions reported sporadic influenza activity (in BC & QC)**
- **The ILI consultation rate was below the expected range for this week**

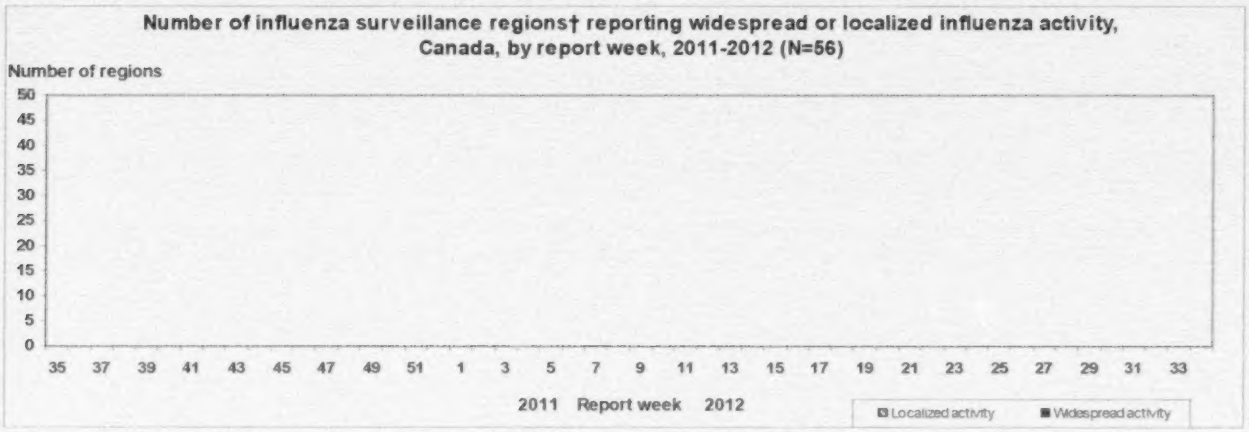
Influenza Activity and Outbreaks

In week 41, two regions reported sporadic influenza activity (in BC & QC). No data were received from regions in SK, YT and the Northwest region of ON this week (see Activity level Map). No outbreaks of influenza or ILI have been reported since the start of the season.

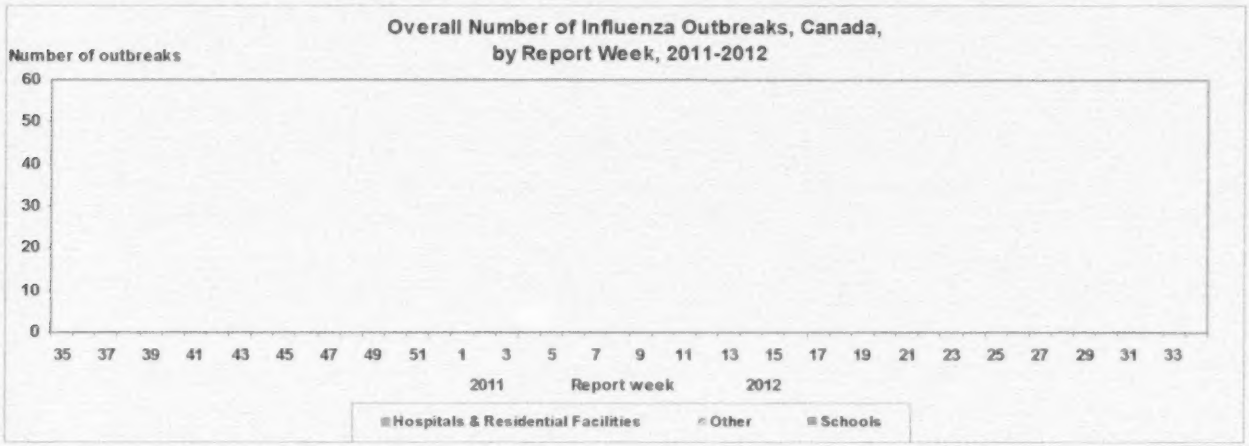
Map of overall Influenza activity level by province and territory, Canada, Week 41



Note: Influenza activity levels, as represented on this map, are assigned and reported by Provincial and Territorial Ministries of Health, based on laboratory confirmations, sentinel ILI rates (see graphs and tables) and reported outbreaks. Please refer to detailed definitions on the last page. For areas where no data is reported, late reports from these provinces and territories will appear on the FluWatch website.

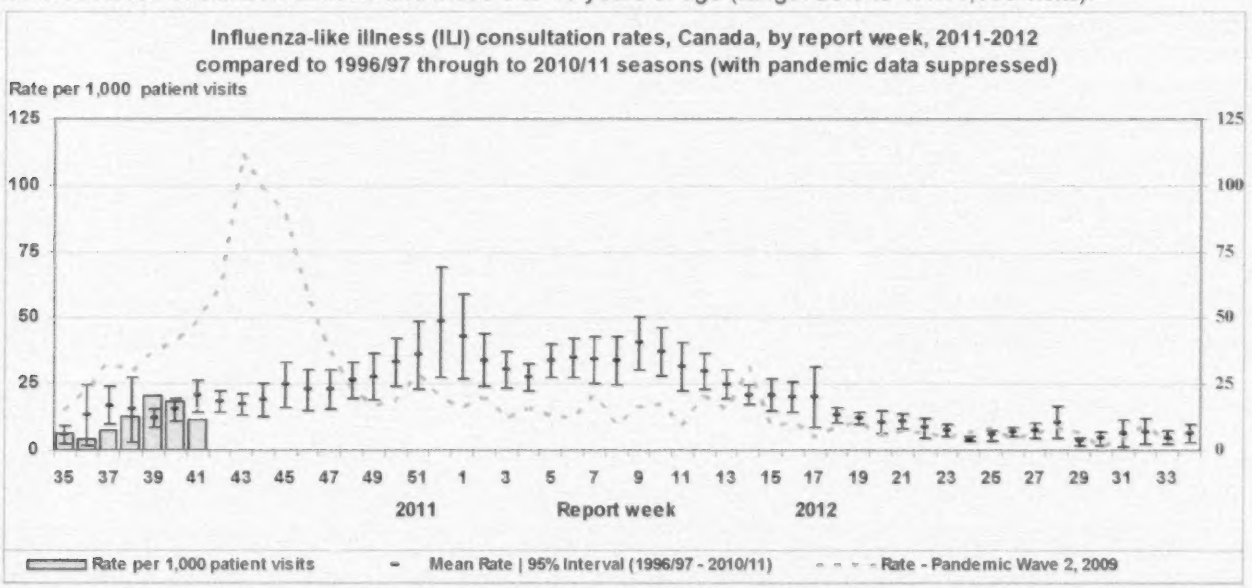


† sub-regions within the province or territory as defined by the provincial/territorial epidemiologist. Graph may change as late returns come in.


Overall Number of Influenza Outbreaks, Canada, by Report Week, 2011-2012
Number of outbreaks
60
50
40
30
20
10
0
35 37 39 41 43 45 47 49 51 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33
2011 Report week 2012
Hospitals & Residential Facilities
Other
Schools

ILI consultation rate

The national ILI consultation rate was 11.2 consultations per 1,000 patient visits in week 41 which is below the expected levels for this time of year (see ILI graph). The highest consultation rate this week was observed among children under 5 years of age (36.7 / 1,000 visits); however, in the past three weeks the highest consultation rates were observed in children under 5 and those 5 to 19 years of age (range: 29.0 to 47.7/1,000 visits).


Influenza-like illness (ILI) consultation rates, Canada, by report week, 2011-2012 compared to 1996/97 through to 2010/11 seasons (with pandemic data suppressed)
Rate per 1,000 patient visits
125
100
75
50
25
0
35 37 39 41 43 45 47 49 51 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33
2011 Report week 2012
Rate per 1,000 patient visits
Mean Rate | 95% Interval (1996/97 - 2010/11)
Rate - Pandemic Wave 2, 2009

Note: No data available for mean rate in previous years for weeks 19 to 39 (1996-1997 through 2002-2003 seasons). Delays in the reporting of data may cause data to change retrospectively.

Laboratory Surveillance Summary

In week 41, 1,431 influenza tests were conducted of which 3 (0.2%) were positive for influenza. Of the positive detections, two were A(H3N2) (from BC) and one was unsubtyped influenza A (QC). The proportion of tests positive for influenza was similar to the last two weeks. Detailed information on age and subtype were received from three cases this season to date. All three cases were between the ages of 20-44 years. One case was due to A(H1N1)pdm09 and the other two were unsubtyped influenza A.

In week 41, the proportion of tests positive for parainfluenza (5.5%) and rhinoviruses (24.6%) remained similar to the previous week. The proportion of positive tests for the other respiratory viruses remained low (RSV-1.5%; adenovirus-2.2%; hMPV-0.9%; coronavirus-0.2%) (see Respiratory Viruses graph). For more details of weekly respiratory virus detections in Canada, see http://www.phac-aspc.gc.ca/bid-bmi/dsd-dsm/rvdi-divr/index-eng.php.

Weekly & Cumulative numbers of positive influenza specimens by Provincial Laboratories, Canada, 2011-2012

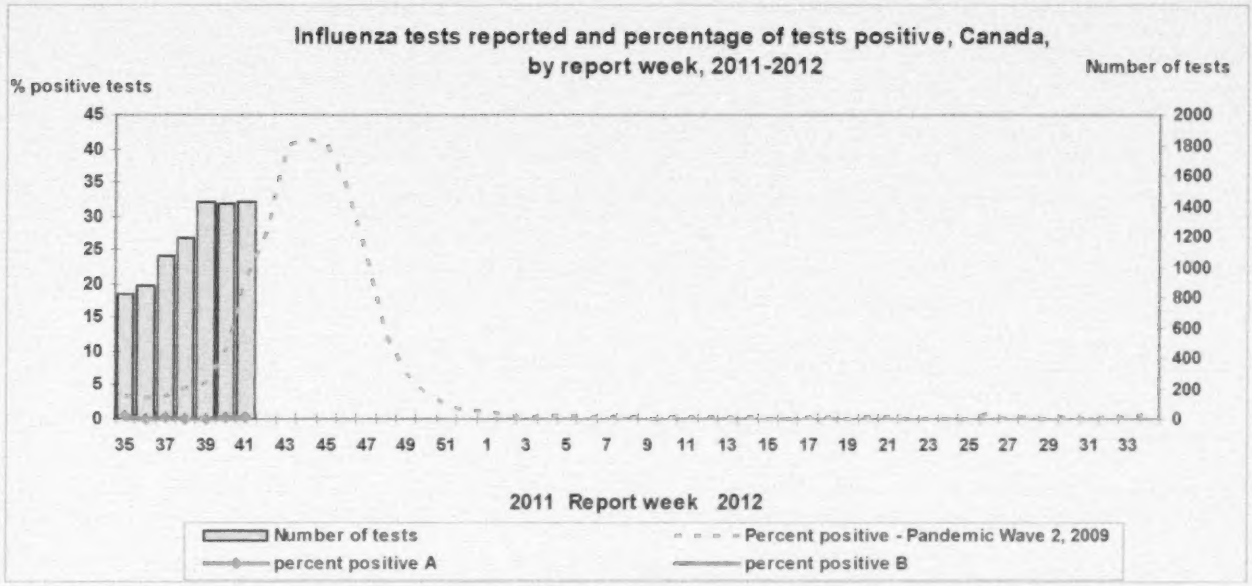
Reporting provinces	October 9 to October 15, 2011						Cumulative (August 28, 2011 to October 15, 2011)					
	Influenza A					B	Influenza A					B
	A Total	A(H1)	A(H3)	A(H1N1) pdm09	A (UnS)*	Total	A Total	A(H1)	A(H3)	A(H1N1) pdm09	A (UnS)*	Total
BC	2	0	2	0	0	0	6	0	6	0	0	1
AB	0	0	0	0	0	0	2	0	0	1	1	1
SK	0	0	0	0	0	0	0	0	0	0	0	0
MB	0	0	0	0	0	0	0	0	0	0	0	0
ON	0	0	0	0	0	0	1	0	1	0	0	0
QC	1	0	0	0	1	0	5	0	0	0	5	2
NB	0	0	0	0	0	0	0	0	0	0	0	0
NS	0	0	0	0	0	0	0	0	0	0	0	0
PE	0	0	0	0	0	0	0	0	0	0	0	0
NL	0	0	0	0	0	0	0	0	0	0	0	0
Canada	**3**	**0**	**2**	**0**	**1**	**0**	**14**	**0**	**7**	**1**	**6**	**4**

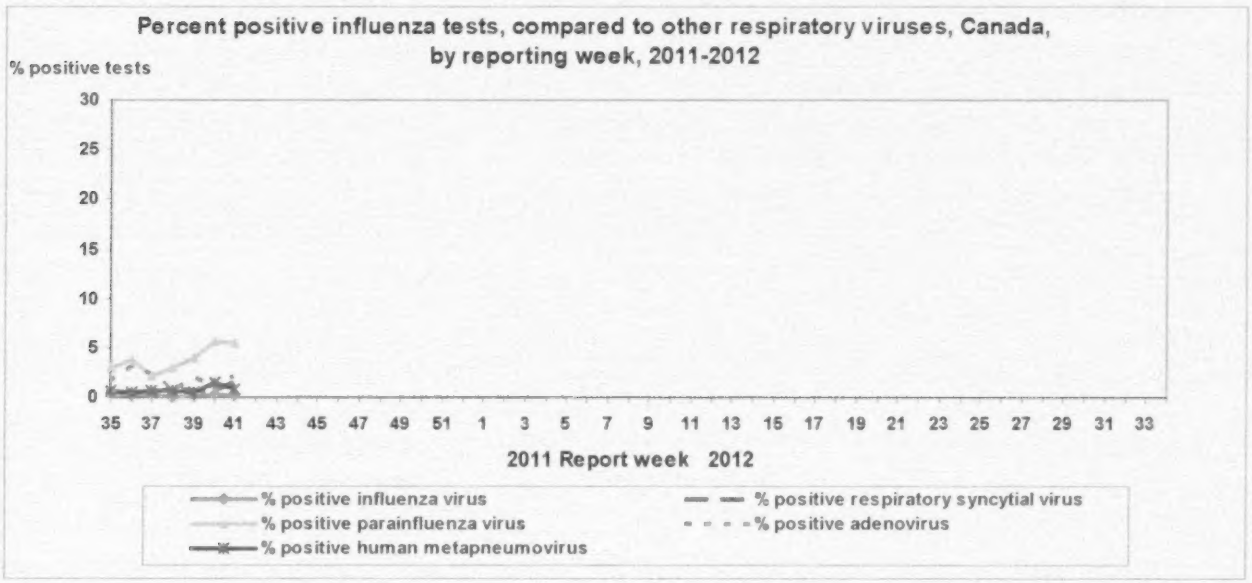
*Unsubtyped: The specimen was typed as influenza A, but no test for subtyping was performed. Specimens from NT, YT, and NU are sent to reference laboratories in other provinces. Note: Cumulative data includes updates to previous weeks; due to reporting delays, the sum of weekly report totals do not add up to cumulative totals.

Weekly & Cumulative numbers of positive influenza specimens by age groups reported through case-based laboratory reporting, Canada, 2011-2012*

Age groups	Weekly (Oct 9 to Oct 15, 2011)					Cumulative (Aug. 28, 2011 to Oct.15, 2011)				
	Influenza A				B	Influenza A				B
	A Total	A(H1N1) pdm09	A(H3N2)	A unsubtyped	Total	A Total	A(H1N1) pdm09	A(H3N2)	A unsubtyped	Total
<5	0	0	0	0	0	0	0	0	0	0
5-19	0	0	0	0	0	0	0	0	0	0
20-44	1	0	0	1	0	3	1	0	2	0
45-64	0	0	0	0	0	0	0	0	0	0
65+	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	3	1	0	2	0

*Please note that this table reflects the number of specimens for which demographic information was reported. These represent a subset of all positive influenza cases reported. Delays in the reporting of data may cause data to change retrospectively.




Percent positive influenza tests, compared to other respiratory viruses, Canada, by reporting week, 2011-2012
% positive tests
30
25
20
15
10
5
0
35 37 39 41 43 45 47 49 51 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33
2011 Report week 2012
% positive influenza virus
% positive respiratory syncytial virus
% positive parainfluenza virus
% positive adenovirus
% positive human metapneumovirus

Antigenic Characterization

Since the start of the season, the National Microbiology Laboratory (NML) has antigenically characterized two influenza viruses (one A/H3N2, and one B), both of which were from BC. The A/H3N2 virus was antigenically related to A/Perth/16/2009, which is the influenza A/H3N2 component recommended for the 2011-12 Northern Hemisphere influenza vaccine. The recommended influenza B component for the 2011-12 Northern Hemisphere influenza vaccine is B/Brisbane/60/2008 (Victoria lineage). The influenza B virus characterized was antigenically related to the reference virus B/Wisconsin/01/2010-like, which belongs to the Yamagata lineage.

The WHO has released the recommended influenza virus vaccine composition for the 2012 Southern hemisphere season and includes the following: an A/California/7/2009 (H1N1)pdm09-like virus, an A/Perth/16/2009 (H3N2)-like virus, and a B/Brisbane/60/2008-like virus.
(http://www.who.int/influenza/vaccines/virus/recommendations/2011_09_recommendation.pdf)

Antiviral Resistance

Since the beginning of the season, NML has tested two influenza viruses (one A/H3N2 and one B) for resistance to oseltamivir (by phenotypic assay and/or sequencing) and for resistance to zanamivir (by phenotypic assay) and it was found that both viruses were susceptible to both oseltamivir and zanamivir.

Severe Illness Surveillance

Since the beginning of the season, no laboratory-confirmed paediatric (<16 years of age) influenza hospitalizations have been reported through the Immunization Monitoring Program Active (IMPACT) network.

International influenza update

Countries in the temperate regions of the northern hemisphere that have begun routine surveillance activities reported no active community transmission of influenza to date. In general, low or undetectable levels of influenza transmission were reported in the tropical countries of the Americas, South America and South Africa. Influenza transmission in tropical Asia has continued to be active in localized areas. Influenza activity has peaked in Australia and New Zealand, though there are regional variations in the timing of the peaks and the season has not yet ended.
http://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/index.html

United States: In week 40, the CDC reported that 1.2% (16/1,343) of influenza tests were positive. The majority of strains characterized (based on specimens collected between May 22 to September 30, 2011) were A/Perth/16/2009-like and B/Brisbane/60/2008-like. National and regional proportions of visits due to ILI were below baseline levels. Geographic spread of influenza was sporadic at most and reported in 20 states. http://www.cdc.gov/flu/weekly/index.htm

Europe: In week 41, levels of influenza activity in Europe (including laboratory detections, consultation rates for ILI and ARI (acute respiratory infection)) remained low. Sporadic detections of influenza A(H3N2), A(H1N1)pdm09 and influenza B have been reported in the past two weeks.
http://euroflu.org/cgi-files/bulletin_v2.cgi

Australia: As of September 30, 2011, levels of ILI in the community (via reports from sentinel general practitioners and emergency departments) continued to decline. Notifications of laboratory-confirmed cases of influenza continued to decrease across most states and territories. Nationally, weekly notifications have peaked (early August). Over the summer months, all jurisdictions reported higher than usual numbers of notifications. The reason for the unusually high activity is not clear; however it does not appear to be solely due to increased testing. Of the influenza isolates subtyped from January 1 to October 3, 2011, 47.8% were A(H1N1)pdm09, 17.3% were A(H3N2) and 34.9% were B. http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-surveil-ozflu-flucurr.htm

FluWatch reports include data and information from the following sources: laboratory reports of positive influenza tests in Canada (National Microbiology Laboratory), sentinel physician reporting of influenza-like illness (ILI), provincial/territorial assessment of influenza activity based on various indicators, including laboratory surveillance, ILI reporting, and outbreaks, influenza-associated paediatric and adult hospitalizations, antiviral sales in Canada, and WHO and other international reports of influenza activity.

Abbreviations: Newfoundland/Labrador (NL), Prince Edward Island (PE), New Brunswick (NB), Nova Scotia (NS), Quebec (QC), Ontario (ON), Manitoba (MB), Saskatchewan (SK), Alberta (AB), British Columbia (BC), Yukon (YT), Northwest Territories (NT), Nunavut (NU).

ILI definition for the 2011-2012 season

ILI in the general population: Acute onset of respiratory illness with fever and cough and with one or more of the following - sore throat, arthralgia, myalgia, or prostration which is likely due to influenza. In children under 5, gastrointestinal symptoms may also be present. In patients under 5 or 65 and older, fever may not be prominent.

Definitions of ILI/Influenza outbreaks for the 2011-2012 season

Schools: Greater than 10% absenteeism (or absenteeism that is higher (e.g. >5-10%) than expected level as determined by school or public health authority) which is likely due to ILI. Note: it is recommended that ILI school outbreaks be laboratory confirmed at the beginning of influenza season as it may be the first indication of community transmission in an area.

Hospitals and residential institutions: two or more cases of ILI within a seven-day period, including at least one laboratory confirmed case. Institutional outbreaks should be reported within 24 hours of identification. Residential institutions include but not limited to long-term care facilities (LTCF) and prisons.

Other settings: two or more cases of ILI within a seven-day period, including at least one laboratory confirmed case; i.e. workplace, closed communities.

Influenza Activity Levels Definition for the 2011-2012 season

Influenza Regional Activity levels are defined as:

1 = No activity: no laboratory-confirmed influenza detections in the reporting week, however, sporadically occurring ILI may be reported

2 = Sporadic: sporadically occurring ILI and lab confirmed influenza detection(s) with **no outbreaks** detected within the influenza surveillance region†

3 = Localized: (1) evidence of increased ILI* and
(2) lab confirmed influenza detection(s) together with
(3) **outbreaks** in schools, hospitals, residential institutions and/or other types of facilities occurring in **less than 50% of the influenza surveillance region†**

4 = Widespread: (1) evidence of increased ILI* and
(2) lab confirmed influenza detection(s) together with
(3) **outbreaks** in schools, hospitals, residential institutions and/or other types of facilities occurring **in greater than or equal to 50% of the influenza surveillance region†**

Note: ILI data may be reported through sentinel physicians, emergency room visits or health line telephone calls.

* More than just sporadic as determined by the provincial/territorial epidemiologist.

† Influenza surveillance regions within the province or territory as defined by the provincial/territorial epidemiologist.

We would like to thank all the Fluwatch surveillance partners who are participating in this year's influenza surveillance program.

This report is available on the Public Health Agency website at the following address: http://www.phac-aspc.gc.ca/fluwatch/index.html. Ce rapport est disponible dans les deux langues officielles. Pour en recevoir un exemplaire dans l'autre langue chaque semaine, veuillez communiquer avec Estelle Arseneault, Division de l'immunisation et des infections respiratoires au (613) 998-8862.